

What is claimed is:

- 1 1. A radio transmission power control circuit comprising:
 - 2 a radio frequency (rf) downconverter that produces a downconverter output
 - 3 having a frequency equal to the frequency difference between a first
 - 4 downconverter input based on a transmitted signal of a radio
 - 5 transmitter and a second downconverter input based on a local
 - 6 oscillator signal;
 - 7 a receiver baseband circuit that processes the downconverter output to
 - 8 produce a power signal representative of the transmitted signal; and
 - 9 a feedback control circuit that produces a transmitter gain control signal to
 - 10 control transmitted signal power so as to minimize the difference
 - 11 between the power signal and a power reference signal.
- 1 2. A circuit according to claim 1, wherein the radio transmitter is part of a half-
 - 2 duplex radio transceiver also having a receiver circuit such that the receiver
 - 3 baseband circuit is used by the receiver circuit when the radio transmitter is
 - 4 inactive, and wherein the local oscillator signal is used by the radio transmitter
 - 5 such that the transmitted signal has a frequency determined by the local oscillator
 - 6 signal.
- 1 3. A circuit according to claim 1, further comprising:
 - 2 an analog-to-digital converter that converts the power signal to a
 - 3 representative digital power signal; and
 - 4 wherein the feedback control circuit produces the transmitter gain control
 - 5 signal so as to minimize the difference between the digital power signal
 - 6 and the power reference signal.

- 1 4. A circuit according to claim 1, wherein the first downconverter input is
2 developed by a directional coupler that senses the transmitted signal.
- 1 5. A circuit according to claim 1, wherein the radio transmitter is part of a
2 wireless local area network transceiver.
- 1 6. A circuit according to claim 1, wherein the radio transmitter is part of a time
2 division duplex system.
- 1 7. A method of controlling radio transmission power, the method comprising:
2 producing with a radio frequency (rf) downconverter a downconverter output
3 having a frequency equal to the frequency difference between a first
4 downconverter input based on a transmitted signal of a radio
5 transmitter and a second downconverter input based on a local
6 oscillator signal;
7 processing the downconverter output with a receiver baseband circuit to
8 produce a power signal representative of the transmitted signal; and
9 producing a transmitter gain control signal to control transmitted signal power
10 so as to minimize the difference between the power signal and a power
11 reference signal.
- 1 8. A method according to claim 7, wherein the radio transmitter is part of a half-
2 duplex radio transceiver also having a receiver circuit such that the receiver
3 baseband circuit is used by the receiver circuit when the radio transmitter is
4 inactive, and wherein the local oscillator signal is used by the radio transmitter
5 such that the transmitted signal has a frequency determined by the local oscillator
6 signal.

- 1 9. A method according to claim 7, further comprising:
2 converting the power signal to a representative digital power signal; and
3 wherein the transmitter gain control signal is produced so as to minimize the
4 difference between the digital power signal and the power reference
5 signal.
- 1 10. A method according to claim 7, wherein the first downconverter input is
2 developed by a directional coupler that senses the transmitted signal.
- 1 11. A method according to claim 7, wherein the radio transmitter is part of a
2 wireless local area network transceiver.
- 1 12. A method according to claim 7, wherein the radio transmitter is part of a time
2 division duplex system.